

# 機率假定密度濾波器與卡門濾波器應用於無線感測網路中之效能比較研究

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## 摘要

本論文利用機率假定密度(Probability Hypothesis Density, PHD)濾波器, 卡門濾波器(Kalman Filter)於無線感測網路(Wireless Sensor Networks, WSNs)佈置之環境中, 進行變動物件之追蹤效能的比較。並以電腦模擬進行其追蹤之均方根誤差(Root Mean Square Error, RMSE)的探討。雖然PHD之演算法有較小誤差之追蹤效能, 然而卡門濾波器之結果在硬體的實現上可以得到較優的益處。本研究結果可以作為WSN之變動性物件追蹤之設計時的參考。

關鍵詞: 無線感測網路、機率假定濾波器、卡門濾波器、均方根誤差。

## 目錄

封面內頁 簽名頁 授權書.....	iii	中文摘要.....	iv
ABSTRACT.....	v	誌謝.....	vi
目錄.....	vii	圖目錄.....	ix
第一章 緒論.....	1	1-1 前言.....	1
1-2 研究動機與背景.....	3	1-3 論文結構.....	4
第二章 機率假定密度濾波器.....	5	2-1 機率假定密度濾波器簡介.....	5
2-2 高斯混合機率假定密度濾波器.....	8	2-3 粒子機率假定密度濾波器.....	14
2-4 互補濾波器與低通濾波器特性.....	16	第三章 卡門濾波器.....	19
3-1 卡門濾波器簡介.....	19	3-2 系統估計過程信號.....	21
3-3 計算原型的濾波器.....	23	3-4 卡門濾波器離散演算法.....	25
3-5 擴展式卡門濾波器.....	29	第四章 無線感測網路.....	37
4-1 無線感測網路簡介.....	37	4-2 IEEE 802.15.4 運用在無線感測器.....	39
4-3 無線感測網路硬體結構.....	43	4-4 無線感測網路的機制特性.....	44
第五章 模擬結果與討論.....	48	5-1 卡門濾波器模擬結果.....	48
5-2 卡門濾波器與PHD濾波器之比較.....	54	第六章 結論.....	62
參考文獻.....	63	圖目錄 圖2-1 機率動態系統.....	9
圖2-2 基本模型.....	11	圖2-3 互補濾波器架構.....	17
圖2-4 一階低通濾波器.....	17	圖3-1 卡門濾波器整體系統區塊圖.....	19
圖3-2 卡門濾波器方塊圖.....	21	圖3-3 離散卡門濾波器迴圈更新圖.....	26
圖3-4 工作原理由圖3.3和時間更新及狀態更新結合得到.....	28	圖3-5 線性化的卡門濾波軌跡.....	33
圖4-1 無線感測網路系統基本架構.....	39	圖4-2 IEEE 802.15.4的架構示意圖.....	40
圖4-3 感測器的硬體結構.....	44	圖4-4 網路容錯重建機制.....	45
圖5-1 卡門濾波器單目標動態追蹤.....	51	圖5-2 卡門濾波器單目標均方根誤差.....	51
圖5-3 卡門濾波器兩個動態目標追蹤.....	52	圖5-4 卡門濾波器兩個動態目標均方根誤差.....	53
圖5-5 粒子濾波器估測週期.....	54	圖5-6 PHD濾波器單目標動態追蹤.....	55
圖5-7 PHD濾波器單目標動態均方根誤差.....	56	圖5-8 卡門濾波器產生不同的軌跡單目標動態追蹤.....	57
圖5-9 卡門濾波器不同的軌跡單目標動態均方根誤差.....	58	圖5-10 PHD濾波器兩個動態目標追蹤.....	59
圖5-11 PHD濾波器兩個動態目標均方根誤差.....	59	圖5-12 卡門濾波器不同的兩個動態目標軌跡.....	60
圖5-13 卡門濾波器不同的兩個動態目標軌跡均方根誤差.....	61	表目錄 表5-1 卡門濾波器單目標動態之數據.....	52
表5-2 卡門濾波器兩個動態目標之數據.....	53	表5-3 PHD濾波器單目標動態之數據.....	56
表5-4 卡門濾波器產生不同的軌跡單目標之數據.....	58	表5-5 PHD濾波器兩個動態目標之數據.....	60
表5-6 卡門濾波器不同的兩個動態目標之數據.....	61		

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